

WHAT IS CLAIMED IS:

1. An information transmission method wherein
an information to be transmitted by using an information
transmission line is categorized; and
5 said information is transmitted in a timing for information
transmission predefined for an individual category.
2. An information receive method wherein
an information to be received by using an information
10 transmission line is categorized; and
said information is received and acquired in a timing for
information transmission predefined for an individual category.
3. An information transmission method of Claim 1, wherein
15 said information transmission line is established by using
an artificial satellite or an optical fiber.
4. An information receive method of Claim 2, wherein
said information transmission line is established by using
20 an artificial satellite or an optical fiber.
5. An information transmission method of Claim 1, wherein
a transmission information is formed as a broadcast base
information including a data information to be transmitted to
25 which a label information including classification, name,

attribute and information source of an information corresponding to said data information, said category information and a version information are added.

5 6. An information transmission method of Claim 1, wherein said categorization is determined by update frequency and/or exigency of an information contents.

10 7. An information receive method of Claim 2, wherein said categorization is determined by update frequency and/or exigency of an information contents.

15 8. An information transmission method of Claim 6, wherein an information transmission timing is determined by respecting a utilization state (occupied state and/or unoccupied state) of said information transmission line individually for an individual category determined by update frequency and/or exigency of an information contents.

20 9. An information receive method of Claim 7, wherein an information receive timing is determined by respecting a utilization state of a receive-side information processing system individually for an individual category determined by update frequency and/or exigency of an information contents.

10. An information transmission method of Claim 6, wherein said categorization is defined to be

(1) information having a large volume and updated in relatively low frequency;

5 (2) information updated more frequently than said information (1) is;

(3) information related to said information (1) and (3) or additional information changing an information contents more vastly than an information contents in (1) and (2), and an information sent out for broadcasting business; and

10 (4) information of importance having an extremely high exigency,

and

15 an categorized information is transmitted at a designated timing for each category in a broadcast mode.

11. An information receive method of Claim 7, wherein said categorization is defined to be at least

20 (1) information having a large volume and updated in relatively low frequency;

(2) information updated more frequently than said information (1) is;

25 (3) information related to said information (1) and (3) or additional information changing an information

contents more vastly than an information contents in
(1) and (2), and an information sent out for broadcasting
business; and

(4) information of importance having an extremely high
exigency,

and

an categorized information is received and acquired at
a designated timing for each category.

10 12. An information transmission method of Claim 10, wherein
said information (1) is transmitted once in a designated
number of days;

said information (2) is transmitted in night at a
designated day;

15 said information (3) is transmitted at an appropriate
timing after said information is generated; and

said information (4) is transmitted promptly when said
information is generated.

20 13. An information receive method of Claim 11, wherein
said information (1) is received once in a designated
number of days;

said information (2) is received in night at a designated
day;

25 said information (3) is received at an appropriate timing

after said information is generated; and

said information (4) is received promptly when said information is generated.

5 14. An information transmission method, wherein

in a dedicated information transmission channel assigned exclusively for transmission of information sent out for broadcasting business, several different set of information are transmitted in a time sharing mode at an unoccupied time slot
10 for said information transmission channel, said unoccupied time slot obtained by compressing information for broadcasting.

15. An information receive method wherein

When acquiring a categorized information by using an
15 information transmission line, said information is acquired at an information acquisition timing defined for an individual category.

16. An information receive method of Claim 15, wherein

20 said information transmission line is established by using an artificial satellite or an optical fiber.

17. A receive-side information processing system for acquiring an information at a designated timing predefined for

25 individual categories when acquiring a categorized information

by using an information transmission line, comprising

a primary buffer device for storing temporarily a transmitted information independently on an operation state of said receive-side information processing system;

5 a main memory unit for storing an information to be used as an output information from said receive-side information processing system; and

an input and output device and others;

wherein

10 an information formed by editing and processing an information stored in said primary buffer device is used as an information to be stored in said main memory unit.

18. A receive-side information processing system for
15 acquiring an information at a designated timing predefined for individual categories when acquiring a categorized information by using an information transmission line,

wherein

based on a label information and a version information
20 added to an transmitted information contents, whether said information is such an information as should be acquired into said information processing system or not is judged;

whether said information should be acquired, skipped or aborted is determined; and

25 an information judged to be acquired is stored sequentially

into a primary buffer device installed in said information processing system.

19. A receive-side information processing system of Claim 18,
5 wherein

in order to specify in advance an information so as to be able to be acquired in said receive-side information processing system, a registration information recording media storing said information is used.

10 20. A receive-side information processing system for acquiring an information at a designated timing predefined for individual categories when acquiring a categorized information by using an information transmission line,

15 wherein

a registration information recording media is used in order to record and register

an information defining a chargeable information which can be acquired in said receive-side information processing
20 system;

a label information and version information of a chargeable information already acquired in said receive-side information processing system; and

a charge transfer account information required for
25 acquiring a new chargeable information.

21. A receive-side information processing system of Claim 19 or 20, wherein

said registration information recording media is an IC
5 card.

22. A receive-side information processing system of Claim 19, 20 or 21, wherein

an information specified by a user of said receive-side
10 information processing system among information distributed free of charge is made registered in said registration information recording media;

a new free distribution information to be acquired into
said receive-side information processing system is defined at
15 said registration information recording media; and

a label information and version information of a free
distribution information acquired in said receive-side
information processing system is made recorded and registered
on said registration information recording media.

20

23. A receive-side information processing system of either one of Claims 17 to 22, wherein

a registration operation for a chargeable information and
a registration operation for a free information are processed
25 with an identical registration information recording media.

24. A receive-side information processing system of either one of Claims 17 to 22, wherein

a registration operation for a chargeable information and
5 a registration operation for a free information are processed individually with a separated registration information recording media.

25. A receive-side information processing system of either
10 one of Claims 17 to 22, wherein

a registration operation for a chargeable information to be acquired into said receive-side information processing system is processed with a registration information recording media; and

15 a registration operation for a free information is processed with a write-enabled recording media installed in said receive-side information processing system.

26. A receive-side information processing system for
20 acquiring an information at a designated timing predefined for individual categories when acquiring a categorized information by using an information transmission line, wherein

An information stored in a primary buffer device is edited and processed by respecting a category information added on said
25 information, using a timing indicated by said category

information as priority level, and utilizing an unoccupied time slot of said receive-side information processing system, and is used for storing newly into a main memory unit installed in advance at said receive-side information processing system, and
5 for rewriting an older version of information already stored in said main memory unit.

27. A receive-side information processing system used for a receive method of Claim 15 or used for either one of systems
10 of Claims 17 to 26, wherein

a received information stored in said main memory unit is selected, edited and processed, and provided for output in a specified output format.

15 28. A receive-side information processing system of Claim 27, wherein

an information required for a driver is selected from an received information stored in said main memory unit, and said receive-side information processing system is installed on a
20 mobile station.

29. A receive-side information processing system of Claim 27, wherein

a simplified image information enabled to be recognized
25 easily by a driver is provided for output as a supplementary

information as well as voice information, and said receive-side information processing system is installed on a mobile station.

- 5 30. A receive-side information processing system of Claim 27, wherein

a detail image information is also provided for output as an information for a passenger in synchronized with an output for a driver, and said receive-side information processing system
10 is installed on a mobile station.

31. A receive-side information processing system of Claim 27, wherein

an information requested by a passenger is provided for
15 output as an information for an passenger in a specified output format, and said receive-side information processing system is installed on a mobile station.

32. A receive-side information processing system of either
20 one of Claims 17 to 20, Claims 22, 24 to 26, embedded in a cellular phone, a PHS, a PDA having a wireless function, a GPS or a personal digital assistants having a composite function of those terminals, or a navigation terminal for a mobile station such as automobile, ship and air craft.

33. A receive-side information processing system of either one of Claims 17 to 20, Claims 22, 24 to 26, embedded in a portable radio, a portable television, a radio and television for a mobile station such automobile.

5

34. A receive-side information processing system of either one of Claims 17 to 20, Claims 22, 24 to 26, embedded in an audio-visual equipment, or a fixed equipment used in doors.

10 35. An information acquisition method, wherein
a transmission information from a transmission source is received at a fixed receiving station, and a mobile station having a device for receiving said transmission information is also allowed to receive said transmission information from said fixed
15 receiving station.

36. An information acquisition method of Claim 35, wherein said transmission source is an artificial satellite or a radio tower.

20

37. An information transmission method, wherein
plural fixed receiving stations for receiving a transmission information from a transmission source has a function for receiving and storing a latest version of all
25 information transmitted out from said transmission source, for

searching and transmitting an information requested by an individual mobile station to an receive-side information processing system of said individual mobile station so that a latest information may be transmitted to said receive-side information processing system of said individual mobile station also via said fixed receiving station.

38. An information transmission method of Claim 37, wherein Said fixed receiving station has a function for acquiring an identical latest version of all information to an information transmitted out from said transmission station via a ground-based information transmission system.

39. An information transmission method, wherein a transmission information from a transmission source is received at a fixed receiving station; and a label information and a version information of all information, and a service recording and an operation recording of said fixed receiving station, both stored individually in plural said fixed receiving stations are defined so as to be acquired through a wireless or wired information transmission line into an information processing system formed for managing said plural fixed receiving stations so that a mobile station having a device for receiving said transmission information may acquire said transmission information also from said fixed

receiving station.

40. An information transmission method of Claim 39, wherein
in case that information stored individually in each of
5 said plural fixed receiving stations is not updated to a latest
version, or is not complete, an information to be used for updating
said information is transmitted out again from an information
processing system for management in said individual fixed
receiving station by using said wireless or wired information
10 transmission system, and an information in said individual fixed
receiving station is updated and revised.

41. An information distribution method, used for a system
wherein a transmission information from a transmission source
15 is received at a fixed receiving station; and a mobile station
having a device for receiving said transmission information may
acquire said transmission information also from said fixed
receiving station, wherein

said individual fixed receiving station is installed so
20 as to be adjacent to a gas station, a automobile repair shop,
a parking area or a shop.

42. An information acquisition method of Claim 35 or 36,
wherein

25 in case that an information processing device at said

mobile station includes only a receiving function, an registration information recording media set in said information processing device is made extracted and inserted into an information input device and an information rewrite device for
5 a registration information recording media of an information processing device installed at said fixed receiving station, said fixed receiving station compares an information object registered in said registration information recording media and an information object stored in an information processing device
10 at said fixed receiving station, and determines and transmits an information to be transmitted out to said information processing device of said mobile station after said registration information recording media is set back to said original information processing device at said mobile station.

15 43. An information acquisition method of Claim 42, wherein in case that an information not stored in said registration information recording media exists at said information processing device of said fixed receiving station, and when said
20 information is being acquired to an information processing device at a mobile station upon request of a user at said mobile station, an accounting processing is initiated by inserting said registration information recording media into a device for reading and writing an information on a registration information
25 recording media at a fixed station, if said information is

chargeable.

44. An information transmission method of either one of Claims 37 to 40, wherein

5 in case that said information processing device at said mobile station is a two-way communication system having a transmit-receive function, said information processing device at said fixed receiving station acquires a classification and version of an information stored in said information processing
10 apparatus at said mobile station; and

a new information is transmitted if a version of an information at said fixed receiving station is newer.

45. An information distribution method of Claims 41, wherein

15 in case that said information processing device at said mobile station is a two-way communication system having a transmit-receive function, said information processing device at said fixed receiving station acquires a classification and version of an information stored in said information processing
20 apparatus at said mobile station; and

a new information is transmitted if a version of an information at said fixed receiving station is newer.

46. An information acquisition method of Claim 35 or 36,
25 wherein

in case that said information processing device at said mobile station is a two-way communication system having a transmit-receive function, said information processing device at said fixed receiving station acquires a classification and
 5 version of an information stored in said information processing apparatus at said mobile station; and

a new information is transmitted if a version of an information at said fixed receiving station is newer.

10 47. An information service station comprising
 an equipment for receiving a communication from an artificial satellite; and
 an information processing device, wherein
 said information processing device has a function to enable
 15 to transfer an information directly to a mobile station or indirectly via an information transmission media.

48. An information service station of Claim 47, wherein
 said equipment and said information processing device are
 20 installed so as to be adjacent to a facility selected from a gas station, a automobile repair shop, a parking area and a shop.

49. An information service station of Claim 47 or 48, wherein
 said information processing device has an information
 25 transfer media mounting device; and

said information processing device has such a function that said information processing device compares an information object registered on a media removed from a mobile station and mounted in said media mounting device with an information object stored in said information processing device, and that an information to be transmitted out to said mobile station with said media is determined.

50. An information service station of Claim 47 or 48, wherein
- 10 said information processing device has such a function that said information processing device acquires a classification and a version of an information stored in an information processing device at a mobile station via an information transfer media, and that, if a version of an
- 15 information of said fixed station is judged to be newer, a new information is updated and registered on said media.